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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
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08/855,895 05/12/97 STEVENS

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EXAMINER

PMS1/0107

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ART UNIT

PAPER NUMBER

10

3641

DATE MAILED: 01/07/99

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

- ☒ Responsive to communication(s) filed on 11/3/98
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-31 is/are pending in the application.
- Of the above, claim(s) 5, 10-16, 21-24, and 28-29 is/are withdrawn from consideration.
- ☒ Claim(s) 30-31 is/are allowed.
- ☒ Claim(s) 1, 4, 6-8, 17, and 25-26 is/are rejected.
- ☒ Claim(s) 2-3, 9, 18-20, and 27 is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☐ Notice of Reference Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--SEE OFFICE ACTION ON THE FOLLOWING PAGES--

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

2. Claims 1, 4, 7, and 25-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Genovese.

Genovese discloses a reactive personnel protection system comprising:

- a) an inflatable air bag, 23
- b) a gas generating system, 21
- c) deployment in response to proximate detection of a ballistic projectile, and col. 2, lines 33-36
- d) a radar-based detection system. col. 4, lines 40-43;  
col. 5, lines 4-6

3. Applicant's arguments are addressed as follows. Applicant argues that there is no disclosure in Genovese of an air bag being deployed in response to ballistic activity. This is clearly not the case. Col. 2, lines 32-36, clearly states that one of the objects of the invention is to be used to control the motion of explosively propelled objects. It is clear that this objective could only be met only by deploying an air bag after detection of the ballistic activity. Applicant argues that the radar-based detection system is only referenced with respect to the motion of persons

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moving about. This is not the case. Col. 4, lines 39-43, discusses conventional sensor-controlled energizers than can detect motion as being ideal for automatic operation. There is no mention of this automatic operation as being in response to the motion of persons. With regard to the argument that there is no teaching within Genovese to determine whether the motion detected by the sensor-controlled energizers is from persons or ballistic projectiles, the following explanation is given. Clearly the motion detection sensor of col. 4, lines 39-43 is intended to be used with the motion that could be sensed by any of the different embodiment and not intended to be limited to only a particular embodiment. It is believed that this teaching in combination with the teaching of col. 2, lines 32-36, directed to exploding an air bag in response to motion of projectiles and bullets provides a clear teachings as to at least one use for the motion detection sensors of col. 4, lines 39-43.

With regard to the argument that high inflation rates that would be required for stopping projectiles are taught away from in Genovese, the following explanation is given. Col. 3, lines 42-44, states "high-inflation rates are not necessary or even desirable in most of the applications contemplated for the present invention". Clearly this statement is intended to be directed to only some of the embodiments and in particular the embodiments directed to human/animal restraint systems.

With regard to the argument that Genovese teaches an air bag material that is operationally dependent that is fabricated from "e.g., polymers, natural rubber, woven fabrics, etc.", the following explanation is given. (1) This statement explicitly states that the material of

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the air bag is operationally dependent meaning that a different type of material could be chosen for each of the different embodiments (human/animal restraint vs. projectile interference). (2) The statement explicitly lists the materials as being examples of materials and does not conclude that only these materials could or would be used. (3) Are not KEVLAR and SPECTRA shield fabrics considered to be woven fabrics?

Consequently, the Genovese disclosure is a projectile detection system (see col. 2, lines 33-36 in combination with col. 4, lines 39-43);

With regard to the argument that Genovese does not detect the approach of a projectile in proximity to a person. Clearly it does for the following reasons. (1) It is designed to provide a near-instantaneous restraint to personnel, animals, or **other objects**. (2) Several of the embodiments show the air bags being deployed between the person being protected and the intended threat (see figs. 4A-4D). (3) Col. 2, lines 32-36, refers to rapid and effective damage-mitigation technique used to control the motion of explosively propelled objects. Damage-mitigation could only take place if the air bag was located in proximity of the person being protected.

With regard to the argument directed to rapidly deployable air bags not being used. The reference explicitly states the use of rapidly deployable air bags is numerous instances (see col. 1, line 60; col. 2, line 23; and col. 5, lines 20-21).

With regard to the argument that Genovese does not disclose a destructive object detection system, clearly this is not the case. In order for the Genovese device to function as a

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damage-mitigation device to control the motion of projectiles, it must at some point sense the motion of these projectiles (see col. 4, lines 40-43).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Genovese in view of Khandhadia et al..

Genovese applies as previously recited. However, undisclosed is an air bag constructed of polyethylene. Khandhadia et al. teach an air bag constructed of polyethylene or polyester fibers, col. 3, lines 61-64. Applicant is substituting a particular material type for the material type of air bag disclosed in Genovese. It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Khandhadia et al. to the Genovese personnel protection system and have a personnel protection system with a polyethylene or polyester fiber material air bag.

6. Applicant's arguments are addressed as follows. With regard to the issue of motivation to combine Khandhadia et al. with Genovese, the motivation is directed to substituting equivalent material types. Applicant seems to be of the opinion that some form of explicit motivation is necessary to make a 35 USC 103 combination of teachings. This is not the case. All that is necessary is that the invention as a whole would have been obvious to a person of ordinary skill in

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this art at the time of the invention. In this case the motivation is implicit in view of the fact that one of ordinary skill would know to substitute one equivalent material type for another. Applicant makes several other arguments (e.g. radar-based projectile detection system, etc.) that are directed to teachings present in Genovese. Khandhadia et al. is not being relied upon to teach these features, Genovese is.

7. Claims 1, 4 and 25-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Cho.

Cho discloses a reactive personnel protection system comprising:

- a) an inflatable air bag, 14, 46
- b) a gas generating system, 16
- c) deployment in response to proximate detection of a ballistic projectile, and col. 7, lines 18-24
- d) a radar-based detection system. col. 3, lines 34-40

8. Applicant's arguments are addressed as follows. Applicant argues that Cho actually teaches away from his invention in that it serves to minimize damage to other non-moving vehicle obstacles. However, further in the same paragraph Cho recites and intended usage to detect pedestrians, animals, and balls. Since all of these objects are capable of motion and one would in fact expect motion, the disclosure is clearly intended to be directed to moving objects as well as stationary objects or obstacles. With regard to the argument that the different objects detected do not move at ballistic speeds, it should be noted that applicant has claimed "a projectile". Clearly a ball can be considered to be a projectile. With regard to the argument that Cho does not teach

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protecting a person, relatively stationary, from the approach of a ballistic projectile. The following response is given. (1) Applicant has not claimed “a **ballistic** projectile” nor has he claimed a “**stationary** person”. (2) Since the vehicle 10 must have a driver to be operated, anything that is designed to protect the vehicle must also protect the operator or person or persons inside the vehicle. (3) Since the protection system is designed to be used against stationary as well as moving objects as previously argued, the limitation directed to protection against a projectile (in this case the ball of Cho) is clearly met.

9. Claims 17 and 25 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Nitschke et al..

Nitschke et al. disclose a method of protecting personnel from the rapid approach of an object comprising:

- |  |                |
|--|----------------|
| a) detecting the approach of said object,  | 10             |
| b) discriminating the presence of the object vs. electronic noise,                   | 21             |
| c) activating a gas-generation system in response to presence of<br>said object, and | 22, 23         |
| d) deployment of an air bag between said object and the personnel.                   | 31, 32, 33, 34 |

10. Applicant argues that Nitschke et al. fails to disclose a “projectile detection system”.

However, since this is not what is being claimed, this claim limitation need not be met. What is being claimed is “A method to reactively protect personnel from the rapid approach of an object

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by deployment of an air bag prior to arrival of the object” and this is clearly what the Nitschke et al. air bag deployment system is intended to do.

11. Claims 17 and 25 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Caruso et al..

Caruso et al. disclose a method of protecting personnel from the rapid approach of an object comprising:

- |  |                              |
|--|------------------------------|
| a) detecting the approach of said object,  | Accel. Signal                |
| b) discriminating the presence of the object vs. electronic noise,                   | 10                           |
| c) activating a gas-generation system in response to presence of<br>said object, and | 28                           |
| d) deployment of an air bag between said object and the personnel.                   | see reference<br>in entirety |

12. Applicant argues that Caruso et al. fails to teach either “radar signal returns caused by the approach of a ballistic projectile” or “a radar-based projectile detection system” or a system that operates “in response to detection of the approach of a projectile in proximity to said person”. However, since none of these features are claimed in either claim 17 or claim 25, they need not be present in Caruso et al. to anticipate. With regard to the last quote, claim 25 does claim “in response to detection of the approach of said object in proximity to said person”. Caruso et al. clearly does this albeit in a different way than does applicant. Caruso et al. detects the presence of an object via change in acceleration, see col. 3, lines 37-40.



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13. Applicant's arguments filed on 11/03/9 have been fully considered but they are not persuasive. These arguments have been addressed in the preceding paragraphs of this Office action.

14. Claims 2-3, 9, 18-20, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. Claims 30-31 are allowed.

16. This application contains claims 5, 10-16, 21-24, and 28-29 drawn to an invention nonelected in Paper No. 6. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

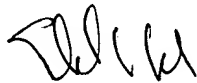
17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication should be directed to Stephen M. Johnson at telephone number (703)-306-4158.



STEPHEN M. JOHNSON  
PRIMARY EXAMINER  
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